UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,216	05/31/2001	Marcel F.C. Schemmann	11890/2	6854

26646 7590 08/08/2005

KENYON & KENYON
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2638	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/871,216	SCHEMMANN ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2001*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 24-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-11,13 and 25-29* is/are allowed.

6)☒ Claim(s) *12 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 03/25/2005.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 24 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of copending Application No. 09/782,354 (Schemmann et al) in view of Nystrom et al (US Patent No. 5,412,351).

Regarding claim 24, Shemmann et al (copending Application No. 09/782,354) discloses an optical data signal transmitter comprising:

a Mach-Zender modulator, the Mach-Zender modulator receiving an input optical signal and modulating a pair of side carriers onto the input optical signal, outputting an optical carrier signal; and

at least two phase modulators, the at least two phase modulators receiving the optical carrier signal and each generating an optical data signal by modulating a pair of data signals onto at least two data bands (see claims 1-3 and 30-33 of copending Application No. 09/782,354).

Shemmann et al differs from claim 24 in that he does not specifically teach the data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during all transitions between data symbols. However, Nystrom teaches the data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during all transitions between data symbols (see Figs. 1 and 5a, col. 1, lines 16-28 and col. 2, lines 60-67 and col. 3, lines 1-14). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during all transitions between data symbols as taught by Nystrom in the system of Shemmann. One of ordinary skill in the art would have been motivated to do this since Nystrom suggests in column 1, lines 16-28, col. 2, lines 60-67 and col. 3, lines 1-14 that using such the data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during all transitions between data symbols have advantage of allowing providing an optical communication system with high speed and

high capacity and to increase to the signal to noise ratio and compensate the polarization mode dispersion of the signal.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nystrom et al (US Patent No. 5,412,351) in view of Adachi et al (Pub. No.: US 2001/0050962) .

Regarding claim 12, referring to Figures 1 and 5a, Nystrom discloses a method of reducing the transmitted power of a quadrature modulated data signal, comprising the steps of:

providing a quadrature modulated data signal (Figs. 1 and 5a); and

during all transitional states of the quadrature modulated data signal in which data symbols change in value, reducing the power to zero such that transmitted power decreases to zero at approximately a mid point of the transitional states (see col. 1, lines 16-28, col. 2, lines 60-67 and col. 3, lines 1-14).

Nystrom differs from claim 12 in that he does not specifically teach the signal is an optical signal. However, Adachi teaches the signal is an optical signal (Figs. 9 and 16, page 7, paragraphs [0151]-[0152]). Therefore, it would have been obvious to one

having skill in the art at the time the invention was made to incorporate the signal is an optical signal as taught by Adachi in the system of Nystrom. One of ordinary skill in the art would have been motivated to do this since Adachi suggests in page 7, paragraphs [0151]-[0152] that using such the signal is an optical signal has advantage of allowing providing an optical communication system with high speed and high capacity.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasai et al (US Patent No. 6,459,519) in view of Olshansky (US Patent No. 5,101,450) and further in view of Nystrom et al (US Patent No. 5,412,351).

Regarding claim 24, referring to Figure 3, Sasai discloses an optical data signal transmitter (i.e., optical transmitter 101, Fig. 3) comprising:

a Mach-Zender modulator (i.e., Mach Zender modulator 102-1, Fig. 3), the Mach-Zender modulator receiving an input optical signal and modulating a pair of side carriers onto the input optical signal, outputting an optical carrier signal; and

at least two modulators (i.e., modulator 102-2, Fig. 3), the at least two modulators receiving the optical carrier signal and each generating an optical data signal by modulating a pair of data signals onto at least two data bands.

Dodds differs from claim 24 in that he does not specifically teach the at least two phase modulators and the data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during all transitions between data symbols. However, Olshansky teaches at least two phase modulators (see Fig. 18, col. 15, lines 30-67 and col. 16,

lines 1-20) and Nystrom teaches the data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during transitions between data symbols (see col. 1, lines 16-28, col. 2, lines 60-67 and col. 3, lines 1-14). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the at least two phase modulators and data bands are spread in frequency when modulated onto the carrier signal, the spreading causing an amplitude of the data signal to be reduced to zero during transitions between data symbols as taught by Olshansky and Nystrom in the system of Dodds. One of ordinary skill in the art would have been motivated to do this since Olshansky suggests in column 15, lines 30-67 and col. 16, lines 1-20 and Nystrom suggests in column 1, lines 16-28, col. 2, lines 60-67 and col. 3, lines 1-14 that using such the at least two phase modulators and data bands are spread in frequency when modulated onto the optical carrier signal, the spreading causing an amplitude of the optical data signal to be reduced to zero during all transitions between data symbols have advantage of allowing providing an optical communication system with high speed and high capacity and to increase to the signal to noise ratio and compensate the polarization mode dispersion of the signal.

Allowable Subject Matter

7. Claims 1-11, 13 and 25-29 are allowed.

Response to Arguments

8. Applicant's arguments filed 03/25/2005 have been fully considered but they are not persuasive.

The applicant's arguments to claims 12 and 24 are not persuasive. The independent claims 12 and 24 are now amended to include the limitation of "**during all transitional states of the quadrature modulated optical data signal in which data symbols change in value, reducing the power to zero such that transmitted power decreases to zero at approximately a mid point of the transitional states**" and applicant argues that the cited references fail to teach such limitation. The examiner respectfully disagrees. As indicated in Figure 1, Nystrom teaches during all transitional states of the quadrature modulated data signal in which data symbols change in value, reducing the power to zero such that transmitted power decreases to zero at approximately a mid point of the transitional states (see Fig. 1, col. 1, lines 16-28, col. 2, lines 60-67 and col. 3, lines 1-14).

Therefore, it is believed that the limitations of claims 12 and 24 are still met by the combination of Sasai, Olshansky, Nystrom and Adachi and the rejection is still maintained.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

HANH PHAN
PRIMARY EXAMINER